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Water filtration made easy

INTELLIGENT INVERTER WATER PUMP

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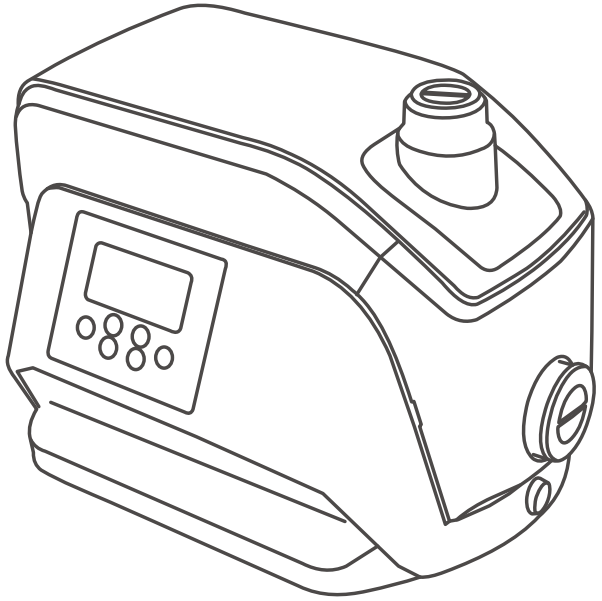
User Manual



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WARNING

1.Earthing:
*Please ensure that the power outlet socket is properly earthed for maximum safety.
*Explosion hazard. Do not ground to a gas supply line.
*Please make sure that the power outlet socket and plug are dry.
2.For safety, always disconnect the pump from the mains for repair or maintenance .

3.The pump is strictly prohibited from immersing into the water. The antifreeze shall be applied if water temperature is below 4°C.

4.Never move the water pump by pulling or holding the power cord as it will cause breakage and short circuit. Please carry the water pump with both hands.

5.The water pump is designed to pump clear water only that is free from explosive substances and solid particles or fibre. Never use the pump for pumping flammables and /or explosive liquid such as gasoline, alcohol, etc. as it will cause explosion.
6.Installation and maintenance must be carried out by qualified personnel . Improper repair may cause personal injury and damage to the equipment.
In addition, the product warranty shall be void due to wrong application.
7.If the power cord is to be extended or replaced, use only the same or higher wire specification. Please make sure connection is secured, waterproofed and fully insulated.
8.The manufacturer will not assume any liability in case of any modification to the water pump.
9.DO NOT DRY RUN (WITHOUT WATER SUPPLY) !

INFORMATION ON THE PUMP

Thanks for using our pump. Please read this user manual before installation. Installation and operation must comply with local regulations and accepted codes of good practices. Children shall not handle the appliance. Cleaning and maintenance shall not be made by unauthorized personnel.
Intelligent inverter pump provides constant water pressure for a variety of domestic and light commercial applications. The booster pump consists of a stainless steel multi-stage pump, permanent-magnet VFD motor, diaphragm tank, pressure sensor and intelligent controller. The intelligent controller is integrated with motor speed control, all-in-one pump control, fault protection, and display screen. It is easy to install and to operate.
You can set your desired requirement on the control panel of our intelligent inverter pump. The pump can supply constant water pressure so that the user is no longer bothered by water pressure fluctuation due to a rise or fall in demand, or from start / stop function. The variable speed motor will save energy and noise reduction. Please keep this manual after reading it along with warranty card as reference.

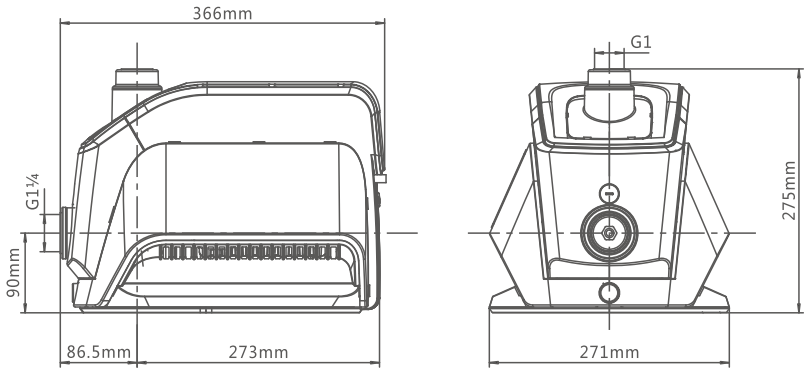
PERFORMANCE DATA

MODEL	W2B 17
POWER	750W
CURRENT	5.0A
RATED.Q	4.0m³/h
MAX.Q	8.0m³/h
RATED.H	30
MAX.H	37
INLET/OUTLET	1"x1"
OPTIMAL WORKING POINT	1.5-3.5

WORKING CONDITIONS

PH Value: 5-8
Ambient Temperture:0-40 °C
Ambient humidity: max. 85% (RH)
Liquid Temperature: 0-60 °C
(The maximum temperature of liquid shall not be over than 90 °C)

INSTALLATION DIMENSION



CONTROLLER SETTING AND OPERATION

A. Press + and - together to unlock/lock the controller.
B. Press MODE to select the working mode:
1.BOOSTER-UP, 2.BOOSTER-DOWN, 3.FILL THE TANK.
C. Press the + or - to set the working pressure of the pump. Then the pump can automatically work according to set pressure.

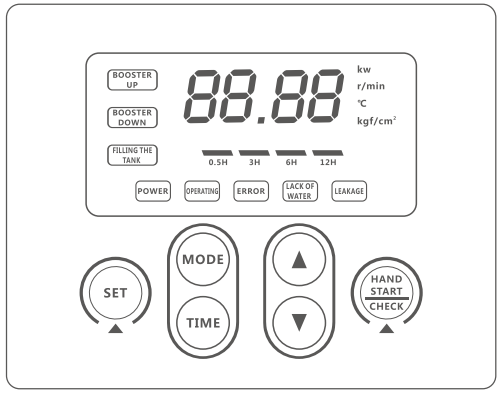
BOOSTER – UP : To increase the water pressure upwards
Application: Domestic water supply, Pressure systems, Irrigation pumps
Working pressure factory settings : 2.8kgf/cm2
Calculate Working Pressure Value :
P– Working Pressure Value (Head)
H– The vertical height between the pump outlet and the highest point of use;
(1.0kgf/cm² ≈ 10m)
P=H/10+1.0kgf/cm²

BOOSTER – DOWN : To decrease the water pressure of downwards
Application: Increase the water downward pressure from roof tank (Used for positive water supply).
Working pressure factory settings : 1.8kgf/cm², It is recommend the factory settings value is used.
Calculation of Working Pressure Value :
P– Working Pressure Value
H– The vertical height between the pump outlet and use point;
(1.0kgf/cm² ≈ 10m)
P2-Pump working pressure value
P=H/10 +P2

FILLING THE TANK : Filling in the tank according to selected time interval.
Application: Pump water from ground tank/mains to roof tank by selected time interval.
Avoid start & stop frequently. (Automatic start by set time, stop when the ball float switch off as the tank is full.)
Working pressure factory settings : 2.8kgf/cm²
* The drainage outlet in roof tank must fit a ball float switch.

Calculation of Working Pressure Value:
P– Working Pressure Value (Pump Head)
H– The vertical height between the pump outlet and the highest point of use;
(1.0kgf/cm² ≈ 10m)
P=H/10+1.0kgf/cm²

CONTROLLER PANEL



NO.	Button	Function
1	MODE	1.Click to select working mode: Booster-Up Booster-Down Filling the tank. 2.Press MODE for 3 seconds, all factory set parameters shall be restored.
2	SET	1. Enter setting menu. 2. Selection of the setting (b1 to b8) display on the screen. 3. Setting value will be saved automatically.
3	▲ ▼	1.Lock/unlock the controller panel: press + and – together. 2.Set the working pressure: press + or – to adjust the working pressure. 3.Selection on the setting.

4	HAND START CHECK	1.Switch on/off the pump manually. 2.Long press for continuous running of the pump. 3.Resetting.
5	TIME	Select the mode filling the tank. Then make selection on time interval.
6	0.5H 3H 6H 12H	Selection of time interval for filling the tank. Light on indicates the set time of automatic start. Light off indicates is other working model.
7	POWER	Power indicator Light on indicates the power is on. Light off indicates the power is off.
	OPERATING	RUN: Light permanently on: Pump is running and the pressure is same as the set working pressure value; Light flashing on: Pump is running but the pressure lower than the set working pressure value; Light off : Pump is not running.
	ERROR	FAULT: Warning light Light on means the pump has fault or working abnormally. The screen will display the warning code. When you have eliminated the fault or the fault disappears by itself, the light will be turned off automatically.
	LACK OF WATER	DRY RUN (Lack of water supply) Light on means the pump stopped with no water supply. When you have eliminated the fault or the fault disappears by itself, the light will be turned off automatically.
8	BOOSTER UP BOOSTER DOWN FILLING THE TANK	Working Mode Indicator: Light on indicate the current working mode.

8	LEAKAGE	Light on means the outlet pipe has leakage. It is a warning light and the pump is still working normally. When you have eliminated the fault or the fault disappears by itself, the light will be turned off automatically.
9	88.88	DISPLAY SCREEN A sequential fast showing of factory settings will be displayed. "Factory code (PLD)" > "Power" >Control board version number (such as u01) > Display board version number (such as U01) at the beginning when power is turn on. (e.g. :PLD > 0.75 > u01>U01). 1. Normally, the real-time pressure value of the water pipe is displayed. 2. The setting item or parameter value is displayed during setup. 3. Warning code is displayed when the pump or controller is faulty.

Parameter Setting:
Adjust the parameter value by ⊕ or ⊖
FS: Factory Setting:
The value flashes on the display screen during setup.
WORKING PRESSURE Setting: [Range: 1.00-8.00 kgf/cm^2]
Pressing directly ⊕ or ⊖ to increase/decrease the working pressure.
Navigation: Press ⊕ or ⊖ > Adjust digit [1.00~8.00] > Press SETTING to save or wait for 5s it will be saved automatically.

b01:[Range: 0-80%, FS:70]
Set working pressure value. The pump will stop functioning at the percentage below the working pressure value.
Navigation: Press SETTING > "B01" > SETTING > Adjust digit [0~80] > SETTING to save or wait for 5s it will be saved automatically.

b02:[00:Positive 01:Reverse ,FS:00]
Adjust motor rotating direction, the correct rotation is clockwise when view from fan cover side. ** Motor must be stopped for adjustment.
Navigation: Press SETTING > ⊕ or ⊖ > "b02" > SETTING >[00- indicates anti-clockwise rotation or 01 indicates clockwise rotation] > SETTING to save or wait for 5s it will be saved automatically.

b03:[Range: 0-1.5kgf/cm2, FS:1.5]
Dry run protection (Pipe leakage protection), if the working pressure falls lower than the set value, pump will stop functioning.
Navigation: Press SETTING > ⊕ or ⊖ > "b03" > SETTING > Adjust digit [0~1.5] > SETTING to or wait for 5s it will be saved automatically.

b04:[Range:10-180 second,FS:180]
The time taken for pump to stop working when it is dry run.
Navigation: Press SETTING > ⊕ or ⊖ > "b04" > SETTING > Adjust digit [10~180] > SETTING to save or wait for 5s it will be saved automatically.

b05:[00:Enable 01:Disable FS:00]
Open or close the automatic protection function when the pump working pressure has erratic fluctuation.
Navigation: Press SETTING > ⊕ or ⊖ > "b05" > SETTING > Adjust digit [00 or 01] > SETTING to save or wait for 5s it will be saved automatically.

b06 :[00 : Display working pressure
01 : Display motor speed, FS:00]
Navigation: Press SETTING > ⊕ or⊖ > "b06" > SETTING > Adjust digit [00 or 01] > SETTING to save or wait for 5s it will be saved automatically.

b07: [Range:10-50,FS:30]
If the time taken is too short for the pump to stop after the tap is closed, decreased the value; If the time taken is too long for the pump to stop after the tap is closed, increased the value.
Navigation: Press SETTING > ⊕ or ⊖ > "b07" > SETTING > Adjust digit [10~50] > SETTING to save or wait for 5s it will be saved automatically.

b08: [Range:0-5,FS:0]
Set the quantity of pumps for a pump group. For single pump, set "0". For pump group, set the quantity of pumps, maximum quantity is 5.
Navigation: Press SETTING > ⊕ or ⊖ > "b08" > SETTING > Adjust digit [0~5] > SETTING to save or wait for 5s it will be saved automatically.

PRECAUTIONS

1.Whenever possible, install the water pump in shady, cool and dry area. If the water pump is to be used in the open air, don't expose it to direct sunlight. Otherwise it will cause damage to the water pump and cause electrical hazard.
2.When used in shady area, it is recommended to install Y Type filter onto the suction pipe to prevent the sand from entering the pump body.
3.In frozen areas in winter, do not cover with the heat preservation material to the ventilation hole of the pump, which will cause poor ventilation and heat dissipation and cause fire.
4.It is recommended to drain the water from the pump body to prevent frost cracking in cold weather.
5.Avoid using the water pump if the environment temperature is above 45°C and below 10°C, and do not use the pump if the water temperature exceeds 60°C.

OPERATION AND MAINTENANCE

1.Before starting the water pump, ensure that the power cord is properly connected, the voltage is correct, and all suction pipe and discharge pipe are well connected and sealed.
2.Fill water to the pump body by following the instruction before starting the water pump.
A.Open up the priming screw, fill the pump body until it is completely full.
B.Turn the power on to start the water pump. At this moment, do not have to tighten the priming screw as to accelerate discharge the air of the water pump. Generally the water pump can operate normally after 3 minutes. Then, tighten the priming screw.
C.If the water pump fails to pump water, the water inside the pump body may not be enough, In this case repeat the above operation. Refer to "Common Fault and Trouble Shooting Methods" or contact local distributor for consultation if the water pump still

does not operate normally.
3.The relevant technical data of the water pump are indicated on the nameplate for reference.
4.If the pump is not used for long time, disconnect the power supply, drain the water and clean the pump body, store the water pump in shady, cool and dry area. When restart, if the water pump can' t operate normally, remove the fan cover and turn the fan manually until the fan can rotate smoothly.
5.No routine care and maintenance is required for normal use of the water pump.
6.Rust-proof function: If the pump is in the power-on state and the pump has not been used for a long time, it will automatically run for 20 seconds every 24 hours to avoid pump body rust jamming the impeller.

COMMON FAULTS AND TROUBLE SHOOTING METHODS

NO.	PROBLEM	PROBABLE CAUSES	PROBABLE REMEDIES
1	The pump does not start	The pipe pressure higher than pump's setting value	Increases working pressure value or adjust b01 parameter
		b01 parameter value too low	Increases b01 parameteer value
		The pipe or tap is blocked	Check the pipe and tap
2	The pump does not stop	Pressure sensor faulty	Change pressure sensor
		Pipe leakage or tap is not fully closed	Check the pipe and taps
		Working pressure value is too high	Decreases the working pressure value
		Motor reversal	Adjust the direction of motor rotation through B02
		The pipe is dry run but thedry run protection is not available.	Adjust the parameter of b03 or b05 to activate the dry run protection function

3	The pump functions but no water flows out	Motor reversal	Adjust the direction of motor rotation through b02
		Pipe blocked or check valve does not open	Check the pipe and check valve
		No water supply	Awaiting water supply
4	water shortage warning	Large fluctuation of water pressure leads to misjudgment of water shortage by the controller	Change the parameter of b05 to 01(Disable)
		Too much flow leads to too low pressure in the pump body	Decrease the parameter of b03 or add a check valve
		The diameter of outlet is too big	Change suitable diameter outlet or add a check valve
		Water shortage	Wait the water supply

NO.	WARNING CODE	REASON OF FAULT	SOLUTION
1	E01	[Low voltage] Input Voltage lower than 130V(1Phase)/ 245V(3Phase)	1. The voltage rises to 180V(1phase)/310V (3phase),the fault will removed automatic and pump can operate again. 2. Install a voltage stabilizer.

2	E02	[Over voltage] Input voltage higher than 280V(1Phase)/ 465V(3Phase)	1.The voltage drops to 280V(1phase)/465V (3phase),the fault will be removed automatically and pump can operate again. 2. Install a voltage stabilizer.
3	E03	[Pressure sensor fault]	1. Turn off the power, re-plug the signal wire to pressure sensor to ensure it is in good connection. 2. Check the connecting terminal in controller and ensure it is in good connection. 3. Change to a new signal wire. 4. Change to a new pressure sensor.
4	E04	[IPM temperature too high]	1. To cool the IPM module internal temperature to 80 degrees and below .The pump will return to normal operation. 2. Install the pump in well ventilated place.
5	E05	[Pump overloaded]	Check pump working situation.
6	E06	[IPM module temperature sensor fault]	1.Take the controller to a good cooling place. 2.Check the sensor.
7	E07	[Pump Unit IP conflict]	Check the series setting by Item b08 and replace repetition value.

8	E08	[Lack phase/Over current] a. Rotor locked as impeller is broken, blocked with pump body due to rust or sewerage. b. Bad connection between motor and controller. c. The three-phase resistance of the pump is unbalanced due to the wading of the motor. d. The motor lack-phase.	1. Renew impeller or clear the rust and sewage. 2. Check or replace the connecting wire between motor and controller. 3. Change motor.
9	E09	[IPM current too high and overloaded]	1. Check and remove the case of overloaded motor. 2. External environment interference.
10	E10	[Fault of start]	
11	E11	[Fault of Pump unit connection]	1. Check the connection to repair the fault. 2. Replace the connection wire.
12	E13	[Communication fault between display screen and the control board]	Check the connecting terminal of PCBA board.

SPECIAL NOTE

1.The pump will be automatically protected and shut down when the pipeline is shortage of water during the operation. When the water supply is restored , it will restart and continue to work automatically.

Working mode	Method of Water supply	Time of dry run	The time interval for checking of water supply after pump stops functioning cause by dry run protection.
Booster up	Pipeline water supply	3 min	Check every 1h,2h,4h,8h and later check every 8 hours until the water supply is restored. When the water supply is restored the pump will restart immediately.
Booster down		3 min	Check every 1h,2h,4h,8h and later check every 8 hours until the water supply is restored is restored. When the water supply is restored the pump will restart immediately.
Timing	Pipeline water supply	3 min	Check every 1h,2h,4h,8h and later check every 8 hours until the water supply is restored. When the water supply is restored the pump will restart immediately.

2.The controller is used to pressurize the tap water pipeline. When the pipeline pressure is greater than the starting pressure of the pump, pump does not start. When the pipeline pressure is less than the pump starting pressure, the pump starts to work.